

Application No. 10/782,547  
Reply Brief to Examiner's Answer Dated November 15, 2006  
Paper dated January 10, 2007  
Attorney Docket No. 4262-031383

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

Application No. : 10/782,547  
Applicants : Larry F. Rhodes et al.  
Filed : February 19, 2004  
Title : VINYL ADDITION POLYCYCLIC OLEFIN POLYMERS  
PREPARED WITH NON-OLEFINIC CHAIN TRANSFER  
AGENTS AND USES THEREOF  
Group Art Unit : 1713 Confirmation No. : 3252  
Examiner : Robert D. Harlan Customer No. : 28289

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MAIL STOP APPEAL BRIEF – PATENTS  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**REPLY BRIEF TO EXAMINER'S ANSWER PURSUANT TO 37 CFR §41.41(a)**

Sir:

The present paper represents a Reply Brief in response to the Examiner's Answer mailed on November 15, 2006 for the above-identified Appeal, a response to which is due by January 15, 2007.

I hereby certify that this correspondence is being submitted electronically to the United States Patent and Trademark Office on December 1, 2006.

Jacqueline C. Vigna

(Name of Person Submitting Paper)

*Jacqueline C. Vigna*  
Signature

January 10, 2007  
Date

(B) Status of claims:

Claims 1-41, 61, 63, 65, and 67 of this patent application are pending, with claims 1 and 37 being in independent form. Claims 42-60, 62, 64, 66 and 68-75 were canceled pursuant to a restriction requirement. Appellants point out that claim 41 incorrectly was included by the Examiner in Group I, the elected group of claims.

Claims 1-41, 61, 63, 65 and 67 were finally rejected under 35 U.S.C. § 102(a) in the Office Action mailed February 13, 2006 ("the Final Office Action). Claim 41 was withdrawn from consideration in the Examiner's Answer dated November 15, 2006.

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C. Grounds of rejection to be reviewed on appeal:

Whether claims 1-40, 61, 63, 65, and 67 are anticipated under 35 U.S.C. § 102(b) by U.S. Patent No. 6,372,869 to Arthur et al. ("the '869 patent").

D. Arguments:

A first issue in this appeal is whether Arthur '869 discloses a polymerization catalyst containing Ni and/or Pd ligated by a monodentate ligand. By the Examiner's new citation of art, we are addressing this reply brief as if it is in response to a new grounds of rejection in the Examiner's Answer.

It is Appellants' position that the Examiner has failed to cite any credible evidence that the phenol cited in Arthur '869 is a monodentate ligand. In fact, as will be discussed below, the attached article entitled "Synthetic, Structural, and Mechanistic Studies of the C-H Bond Activation of Phenols by  $W(PMe_3)_6$  and  $W(PMe_3)_4(\eta^2-CH_2PMe_2)H$ " by Rabinovich et al., *J. Am. Chem. Soc.* (1992), 114, 4611-4621 shows that phenol is a bidentate ligand. Note in particular, scheme 1, Figure 7, and the associated text. This reference clearly shows that phenol, and derivatives thereof, are **bidentate** ligands.

A second issue in this appeal is whether Arthur '869 teaches each and every limitation of independent claim 37 and dependent claims 38-40 as required under 35 U.S.C. §102(b). As stated in the Appeal Brief dated August 28, 2006, Arthur "869 neither teaches nor suggests an unsaturated monomer comprising Formula Ia, as recited in claim 37. The Examiner's Answer does not address Appellants' arguments with respect to claims 37-40, merely stating that claims 37-40 are "rejected for depending on a rejected base claim." The Examiner's attention is directed to the fact that claim 37 is an independent claim and does not depend from claim 1.

With respect to the issue of whether Arthur '869 discloses a polymerization catalyst containing Ni and/or Pd ligated by a monodentate ligand, the Examiner concurred with Appellants in that Arthur '869 discloses bidentate ligands in a process for the polymerization of an olefin using a polymerization catalyst. See Examiner's Answer, dated November 15, 2006. However, the Examiner then states that Arthur '869 also teaches a phenol ligand, which is monodentate. In response to Appellants showing in a textbook reference that phenol is an example of a bidentate nucleophile, the Examiner states:

While the Examiner agrees that acrylation can occur through the "O" or the para "C" (technically acylation can also occur through the ortho "C"), this pertains to substitution reactions, not metal complexes. In metal complexes, only the "O" of the phenol ligand complexes with the metal center. There is no simultaneous complexing with another portion of the phenol ligand.

Appellant's disagree with this statement. The Examiner has failed to provide any support for this theory.

The Examiner further states:

...with respect to complex metals or coordination compounds, monodentate ligands are commonly defined as ligands that have only one point of attachment to the metal atom.

The Examiner goes on to cite two separate references in support of this statement. This fact is not in dispute. Appellants agree that monodentate ligands are commonly defined as ligands that have only one point of attachment to the metal atom.

The Examiner then states:

Based on this definition for "monodentate ligand" placed in the context of metal complexes of ligands to metal centers, not in the context of chemical reactivity of phenols in substitution reactions. One of ordinary skill can clearly determine that a phenol ligand is a monodentate ligand and that Arthur '869 clear [sic] teaches the use of phenol, a monodentate ligand, as part of a polymerization catalyst, along with a chain transfer agent in a polymerization process for preparing polycyclic polymers.

As previously stated, Appellants disagree with this statement. It is not understood how the Examiner can surmise that, based on the "definition of a monodentate that such are ligands that have only one point of attachment to the metal atom", one can "clearly determine that a phenol ligand is a monodentate ligand." The references cited by the Examiner, i.e. Inorganic Chemistry by Shriver et al., Sec. 7.2, W.H. Freeman and Co. (1990); Chemistry, Raymond Chang, Sec. 22.3, WCB McGraw-Hill (1998), do not support this statement. In fact, neither of these references even lists phenol, or a derivative thereof, as being monodentate in Tables 7.2 and 22.3, respectively. It is noted that the Examiner has not identified the above, newly cited references to Shriver et al and Chang, on a "Notice of References Cited", PTO Form 892.

Appellants have submitted concurrently herewith a supplemental IDS identifying the above noted Rabinovich et al reference. Note in particular, scheme 1, Figure 7, and the associated text. This reference clearly shows that phenol, and derivatives thereof, are **bidentate** ligands.

Thus, one having ordinary skill in the art, when reading Arthur '869 as a whole, would recognize that the phenol disclosed therein is a bidentate ligand. Accordingly, Arthur '869 fails to disclose the claimed limitation of a polymerization catalyst containing Ni and/or Pd ligated by a monodentate ligand. Therefore, it is Appellants' position that Arthur '869 does not **anticipate** each and every limitation of the claims as required under 35 USC 102(a). It is respectfully requested that the rejection over the claims be withdrawn.

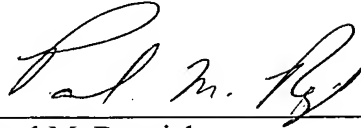
With respect to claims 37-40, as discussed above Arthur '869 neither teaches nor suggests an unsaturated monomer comprising Formula Ia, as recited in independent claim 37. The Examiner has failed to set forth any arguments in support of his rejection of claims 37-40 under 35 U.S.C. § 102(b).

In view of the foregoing and the arguments presented in Appellants' Appeal Brief, it is clear that the pending claims define patentable subject matter over the cited documents. Reversal of the Examiner's rejections is, therefore, respectfully requested.

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Any questions or comments regarding this Reply Brief should be directed to the Appellants' undersigned representative.

Respectfully submitted,  
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